

Main reasons for rejection of Deep Brain Stimulation surgery in candidates with Parkinson Disease

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INTRODUCTION

Stimulation at high frequency (>130 Hz) of basal ganglia has been shown to improve motor signs in patients with advanced Parkinson Disease (PD), namely bradykinesia, muscular rigidity and tremor. Deep brain stimulation (DBS), is particularly indicated for PD patients when optimized medical treatment is no longer efficient (1, 2).

Still, when verifying conditions for surgery, many patients are refused the procedure.

The main reasons that lead to rejection of referral patients for DBS need to be studied. We reviewed the reasons for exclusion of PD patients for the surgery in Centro Hospitalar Lisboa Norte, (Hospital de Santa Maria), between 2006-2016 where roughly 250 patients were implanted during this period.

MATERIAL & METHODS

We performed a retrospective collation of data of PD patients not implanted after being fully evaluated by a multidisciplinary team.

The reasons for exclusion were classified in 7 categories: age, behavioral / psychiatric dysfunction, cognitive dysfunction, PD with predominant axial symptoms (gait and /or balance impairment where DBS is not efficient), pharmacological treatment not optimized, refusal of surgery by the patient, and unrealistic goals.

Anonymized patients data was analyzed after study approval by the Ethics Commissions of Cooperativa de Ensino Superior Egas Moniz CRL and Centro Académico de Medicina de Lisboa.

RESULTS

A total of 48 PD patients were identified as candidate for DBS but have not been implanted: 39,6% women ($64,6 \pm 5,9$ years old) and 60,4% men ($67,2 \pm 7,2$ years old) with a mean duration of the disease of $15,3 (\pm 7,7)$ years.

The main reason for DBS exclusion was related to poor axial motor function: 56,2% had a Movement Disorders Society Unified Parkinson Disease Rating Scale - (MDS-UPDRS) part III score >2 in "On" time in items of gait, freezing or postural instability. Behavioral/psychiatric disorders came second (39,6%), followed by dementia (22,9 %), and age above 70 years old (20,8%). In 14,5% of the cases, patients gave up surgery.

Refusal was related to poor response to levodopa in 12,5% of the cases and to unrealistic goals in 8,3%. Some patients had more than one reason to be rejected

DISCUSSION & CONCLUSION

Our results show that the main reason for rejection in our patients is the presence of axial motor symptoms, contrary to the results from the study of Abboud H, et al. (2014) that identified significant cognitive decline as the main reason for exclusion (3). This may be related to the external referral to specialized centers.

A significant proportion of patients who show interest in this intervention is identified as not suitable.

It is important to carry out a rigorous multidisciplinary evaluation to improve the efficiency of the intervention, reduce adverse events and meet patient and health care provider expectations.

References:

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